

Claims

- [c1] 1.A magnet field type rotary electric apparatus comprising of a rotor and a cooperating stator rotatable relative to each other about an axis, one of said rotor and said stator being comprised of a plurality of circumferentially spaced permanent magnets and the other of said rotor and said stator having a plurality of circumferentially spaced pole teeth surrounded by coil windings, at least one of said plurality of circumferentially spaced permanent magnets and said plurality of circumferentially spaced pole teeth surrounded by coil windings being divided in an axial direction into plurality of stages (n) each of which is circumferentially displaced around said axis at angular intervals of Θ degrees relative to each other, said displacement angle of Θ is expressed as $\Theta = 360^\circ / (A \times n)$, where A is the least common multiple of the number of pole teeth and the number of magnets.
- [c2] 2.A magnet field type rotary electric apparatus as set forth in claim 1 wherein $n \geq 3$.
- [c3] 3.A magnet field type rotary electric apparatus as set forth in claim 1 wherein the permanent magnets are divided in the axial direction.

- [c4] 4.A magnet field type rotary electric apparatus as set forth in claim 3 wherein the permanent magnets of each division are carried by a laminated core.
- [c5] 5.A magnet field type rotary electric apparatus as set forth in claim 4 wherein the laminations of each of the individual core divisions are connected to each other by first fasteners and all of the core divisions are affixed together in their circumferential displacement by second fasteners.
- [c6] 6.A magnet field type rotary electric apparatus as set forth in claim 5 wherein the fasteners comprise rivets and the first fasteners of adjacent of the divisions are circumferentially offset from each other.
- [c7] 7. A magnet field type rotary electric apparatus as set forth in claim 6 wherein each of the adjacent divisions are formed with clearance openings to clear the rivets of the first fasteners of the other one of the adjacent divisions.
- [c8] 8.A magnet field type rotary electric apparatus as set forth in claim 7 wherein $n \geq 3$.